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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,714	12/25/2003	Yu Hong Su	4686	5886
7590	03/24/2005		EXAMINER	
Mr. Eric Chan 42 Pin Oaks Drive Phoenixville, PA 19460			BALISI, SHAY L	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/747,714	SU ET AL.	
	Examiner Shay L Balsis	Art Unit 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 04 February 2005.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 2 is/are pending in the application.
 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Election/Restrictions

Claim 2 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/4/05.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vecchiola et al. (USPN 5911226) in view of Shibahashi et al. (USPN 4425161)

Vecchiola teaches a hairbrush that comprises a handle (32) and head (34). The head has a number of pre-set filament holes (40) on its surface and is attached to the handle by any conventional means. The filaments are change color with temperature. The filaments are made from a plastic material comprising a thermochromic material. Vecchiola fails to teach what compounds make up the thermochromic material. Shibahashi teaches a thermochromic material comprising cationic compounds and halide compounds (col. 2, lines 54-61; col. 9, lines 54-61) which are both known in the art as common fixing agents. The thermochromic material also comprises a latent dye (col. 7, lines 47-68; col. 8, lines 18-68) as well as a melamine resin (col. 15, lines 65-69-col. 16, lines 1-20). Shibahashi also teaches using ester compounds (col. 12, lines 15-34) in the thermochromic material, which are known in the art as common fatty acids.

Additionally, metal acid salts (col. 11, lines 47-63) are metallic oxides that are used in the thermochromic material. Shibahashi teaches using the thermochromic material in a polypropylene plastic material. It would have been obvious to use the thermochromic material as taught by Shibahashi as the thermochromic material in Vecchiola plastic hairbrush bristles since it exhibits a sharp and reversible metachromatism and has improved light-fastness (col. 1, lines 5-7). While Shibahashi does not teach the exact weight percentages of the melamine, latent dye, fixing agent, fatty acid or metallic oxide, generally, differences in concentration or weight percentage will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or weight percentage is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sumii et al. (USPN 5527385) teaches another thermochromic composition
Garner (USPN 6024101) teaches a brush wherein the head of the brush is thermochromic

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L Balsis whose telephone number is 571-272-1268. The examiner can normally be reached on 7:30-5:00 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Slb
3/17/05

Robert J. Warden, Sr.
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